

Calcium

Calcium

- Mineral that makes up bones and keeps them strong
- 99% of calcium in the body is stored in bones and teeth
- Remaining 1% in blood and soft tissues
 - Essential for muscle contractions
 - Blood clotting
 - Nerve transmissions

Insufficient Calcium Intake

- Osteoporosis
- Dental deterioration

Osteoporosis

- Major public health threat
- NOT part of the natural aging process
- 44 million Americans with osteoporosis or low bone mass
- 55% of Americans aged 50+

Consequences of Osteoporosis

- Pain
- Fractures
- Falls
- “Residential Care”

Dietary Sources of Calcium

- Dairy products

- Fish and seafood
- Vegetables
- Beans

Calcium RDA

Infants	Birth – 5 months	400 mg
	5 months – 1 year	600 mg
Children	1 – 10 years	800 mg
Males	11 – 24 years	1,200
	25 – 50 years	800 mg
	51+	800 mg
Females	11 - 24 years	1,200 mg
	15 – 50	800
	51+	800
	Pregnant/Nursing	1,200

Optimal Daily Intake of Calcium

Infants	Birth – 6 months	400 mg
	6 months – 1 year	600 mg
Children	1 – 5 years	800 mg
	6 – 10 years	800 – 1,200 mg
Adolescents	11 – 24 years	1,200 – 1,500 mg
Men	25 – 50 years	1,000 mg
	65+	1,500 mg
Women	25 – 50 years	1,000 mg
	50+ (postmenopausal) on estrogen	1,000 mg
	Not on estrogen	1,500 mg
	65+	1,500 mg
	Pregnant/Nursing	1,200 – 1,500 mg

Calcium Absorption

- Vitamin D
- Lactose

Calcium Retention

- Age
- Estrogen
- Caffeine
- Cigarette smoking
- Alcohol

Bone Mass

- Peak bone mass is achieved during adolescence.
- Bone mass begins to deteriorate after adolescence

Soda!



“Children in the United States are drinking less milk because they are drinking more of other beverages such as soft drinks and fruit drinks. This decline in milk consumption may have serious long-term, detrimental effects on the bone health of today’s youth.”

Rachel K. Johnson, University of Vermont
Journal of the American Dietetic Association, June 2002

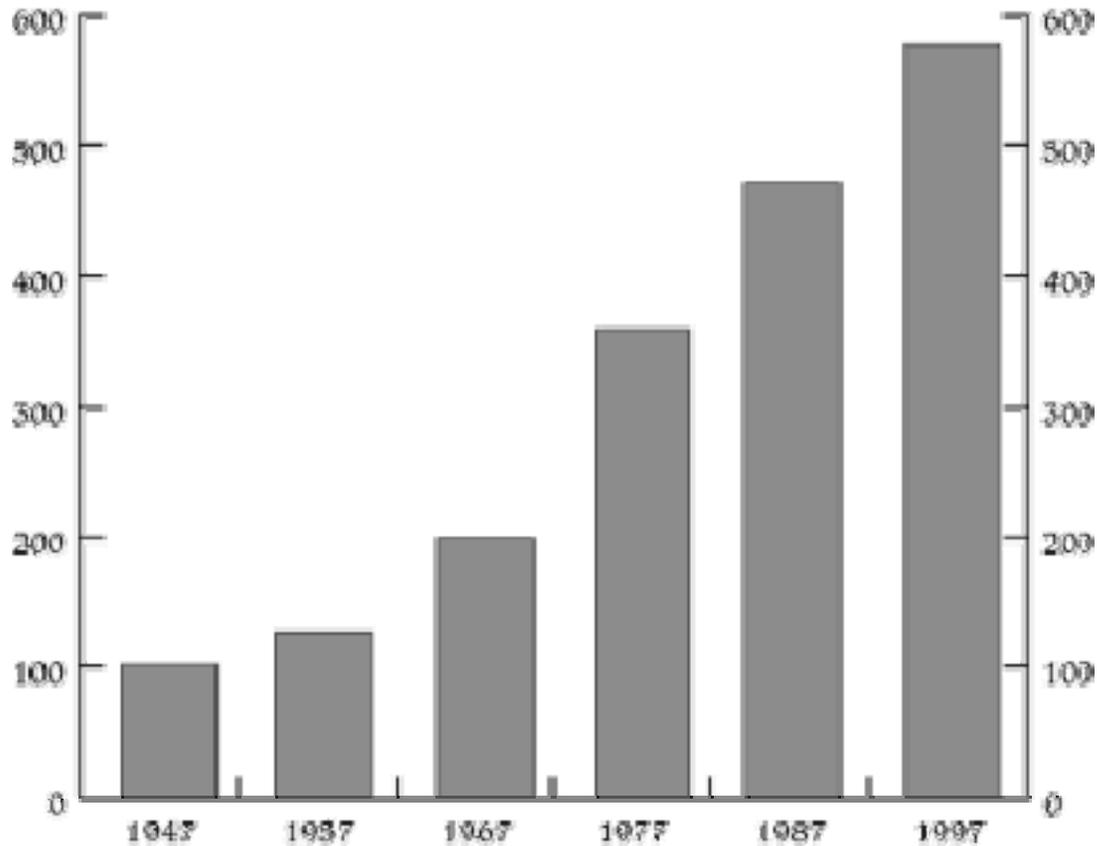
Soda consumption

- Soda consumption increased by 41% between 1990 and 1995
- Milk consumption decreased 25 – 30 % between 1978 and 1995.

More on Soda

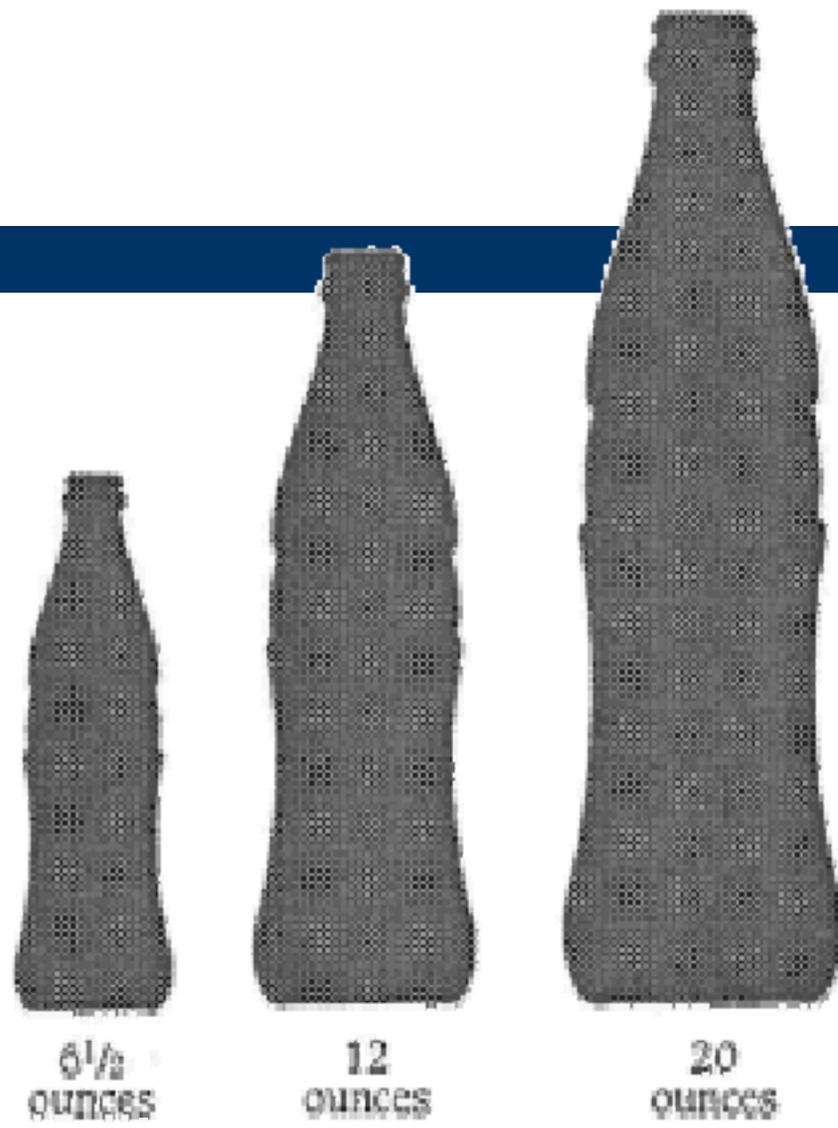
- 56% of 8 year olds drink soft drinks daily
- One third of teenage boys drink at least 3 cans of soda per day
- Children who drink soda consume at least 200 more calories per day than children who don't drink soda

Annual Soft Drink Consumption in US



Number of
12 oz cans /person

Figure 2. Growing size of single-serving containers

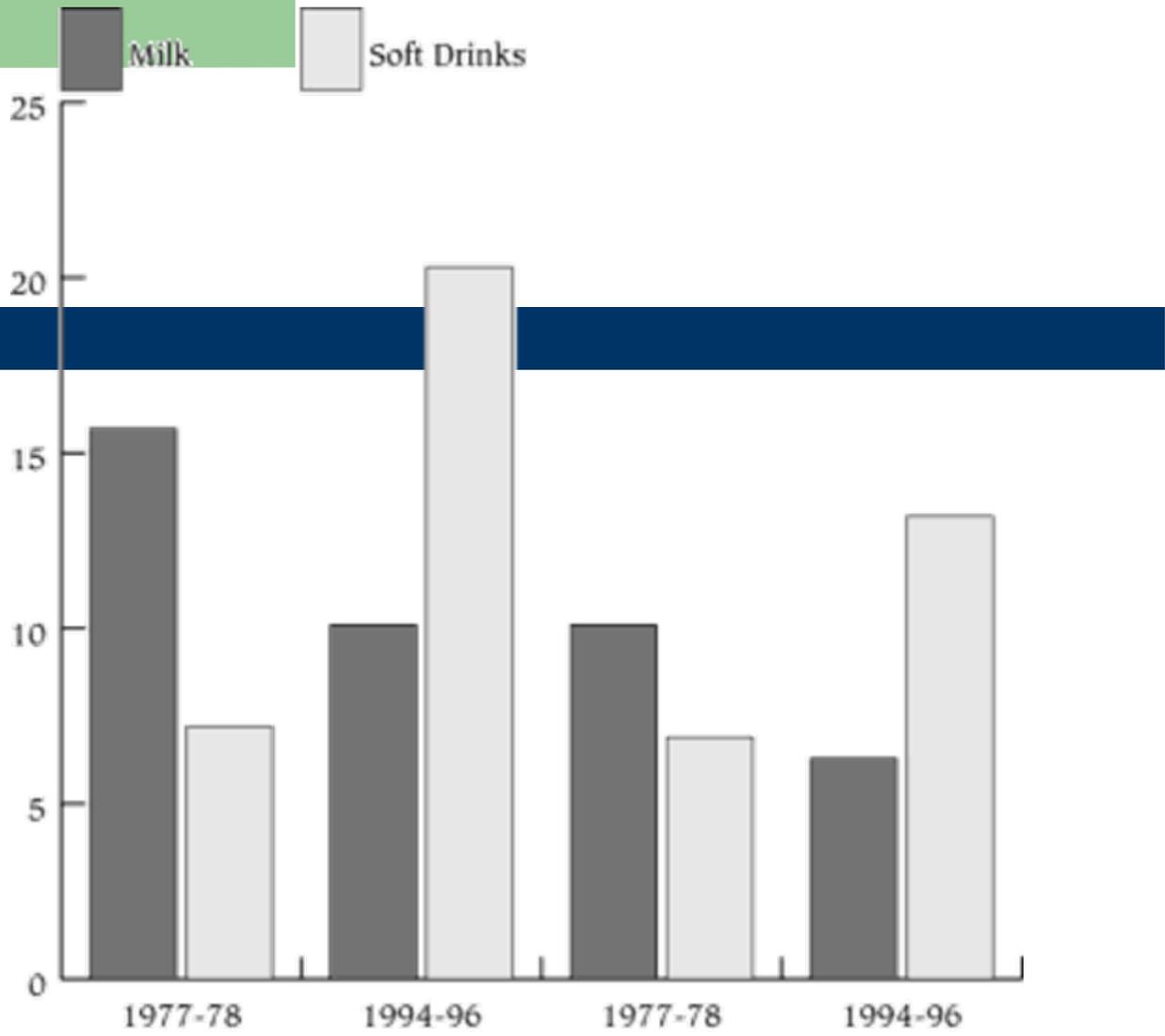


Nutritional Impact of Soft Drinks

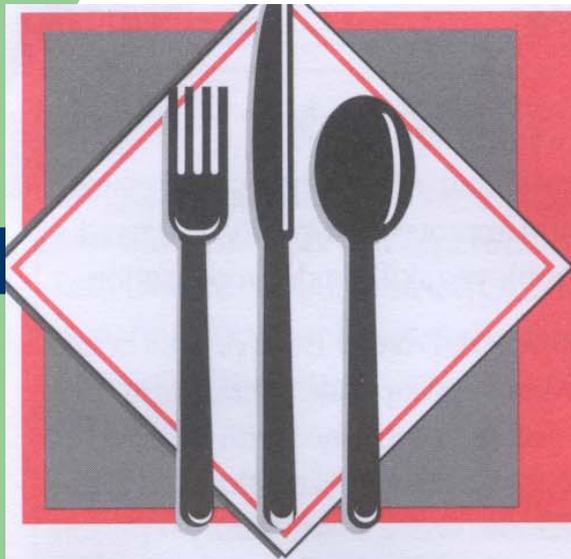
- Sugar intake
 - Carbonated drinks are the single biggest source of refined sugars in the American diet
 - Soda provides the average American with 7 teaspoons of sugar per day out of a total of 20
 - Teenage boys get 44% of their 34 teaspoons of sugar per day from soda
 - Teenage girls get 40% of their 24 teaspoons of sugar from soda

Consequences

- 90% of teenage girls and 70% of teenage boys do not meet their daily calcium requirements
- Soda replaces valuable foods in the diet
- Obesity
- Bone fractures



Teens' consumption of milk and soft drinks per day (ounces)



School Nutrition Professional

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Oakland School Board Bans All Soda, Candy Sales

In a bold and apparently unprecedented step, the Oakland, Calif., school board has

going to be in the position of trend-setting," said Eugenia Lau, menu planning and

Soda Sold in Largest Calif. School Districts

Soda contracts are so pervasive in California schools that...

Sodium

What is salt?

- Salt is sodium chloride.
- It is composed of two elements:
 - Sodium
 - Chloride
- 1 teaspoon of salt = 2,300 mg sodium

Role of Sodium in the Diet

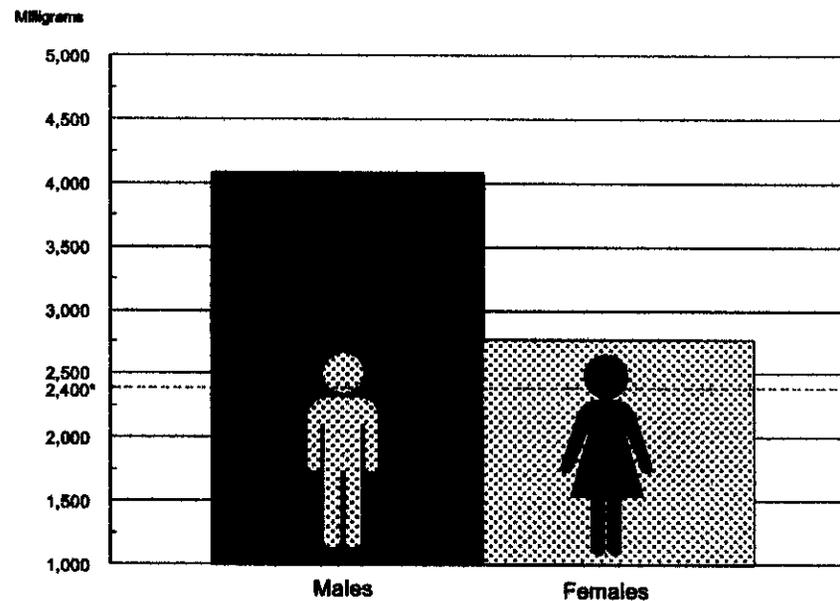
- Regulation of body fluids
- Blood pressure regulation

Recommended Sodium Intake

- 2,400 milligrams

U.S. Sodium Intake

Figure 1. Average dietary sodium intake, by sex, adults 19 years and over



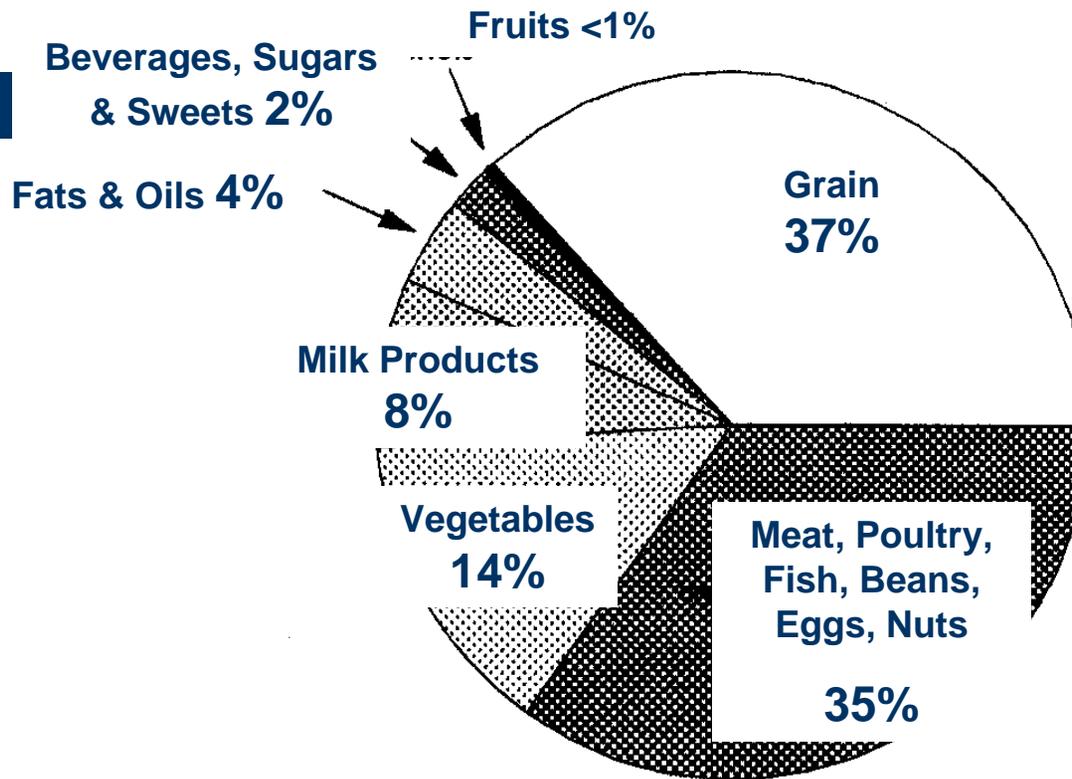
* Recommended maximum level.

Source: USDA, *Continuing Survey of Food Intakes by Individuals, 1994, 1-Day Data.*

Salt Use by Americans

- Most adults consume more sodium than recommended
- ~75% of sodium is added during processing
- ~20% added during cooking or at the table
- Remaining 5% is from water and medications

Food Group Contributions to Sodium Intake, percent of total



Source: USDA, Continuing Survey of Food Intakes by Individuals, 1994, 1-Day Data.

Dietary Salt, Sodium Intake & High Blood Pressure

- Diets with more than 6 grams of salt / day (2,400 mg sodium) are associated with elevated blood pressure
- Increased blood pressure leads to
 - Hypertension
 - Heart disease
 - Stroke
 - Kidney disease

Hidden Salt vs Obvious Salt

A thick, dark blue horizontal bar with rounded ends, positioned below the title.

Reducing Salt Intake

- Add only small amounts of salt in cooking
- Use no salt or small amounts at the table
- Use herbs and spices to flavor foods
- Go easy on condiments such as soy sauce, ketchup, mustard, pickles, olives
- Snack on fruits and vegetables
- Replace highly salted convenience foods with low-sodium products